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August 9, 2000

Don Ostler
Executive Secretary
Utah Water Quality Board
288 North 1460 West
Salt Lake City, Utah 84114-4870

Dear Don:

In accordance with the requirements of 40 C.F.R. § 131.6(e), I have reviewed the materials submitted by your office, and hereby certify as legal counsel to the Utah Water Quality Board, that based on that information, the revised water quality standards (R317-2, Utah Administrative Code) which were adopted by the Board on July 17, 2000, were duly adopted pursuant to state law.

Sincerely,

Fred G Nelson
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Utah Water Quality Board

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Adopted by Utah WQB
7-17-2000

R317. Environmental Quality, Water Quality.
R317-2. Standards of Quality for Waters of the State.
R317-2-1A. Statement of Intent.

Whereas the pollution of the waters of this state constitute a menace to public health and welfare, creates public nuisances, is harmful to wildlife, fish and aquatic life, and impairs domestic, agricultural, industrial, recreational and other legitimate beneficial uses of water, and whereas such pollution is contrary to the best interests of the state and its policy for the conservation of the water resources of the state, it is hereby declared to be the public policy of this state to conserve the waters of the state and to protect, maintain and improve the quality thereof for public water supplies, for the propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate beneficial uses; to provide that no waste be discharged into any waters of the state without first being given the degree of treatment necessary to protect the legitimate beneficial uses of such waters; to provide for the prevention, abatement and control of new or existing water pollution; to place first in priority those control measures directed toward elimination of pollution which creates hazards to the public health; to insure due consideration of financial problems imposed on water polluters through pursuit of these objectives; and to cooperate with other agencies of the state, agencies of other states and the federal government in carrying out these objectives.

R317-2-1B. Authority.

These standards are promulgated pursuant to Sections 19-5-104 and 19-5-110.

R317-2-2. scope.

These standards shall apply to all waters of the state and shall be assigned to specific waters through the classification procedures prescribed by Sections 19-5-104(5) and 19-5-110 and R317-2-6.

R317-2-3. Anti&gradation Policy.

3.1 Maintenance of Water Quality

Waters whose existing quality is better than the established standards for the designated uses will be maintained at high quality unless it is determined by the Board, after appropriate intergovernmental coordination and public participation in concert with the Utah continuing planning process, allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. However, existing instream water uses shall be maintained and protected. No water quality degradation is allowable which would interfere with or become injurious to existing instream water uses.

In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with Section 316 of the Federal Clean Water Act.

3.2 High Quality Waters - Category 1

Waters of high quality which have been determined by the Board to be of exceptional recreational or ecological significance or have been determined to be a State or National resource requiring protection, shall be maintained at existing high quality through designation, by the Board after public hearing, as High Quality Waters Category 1. New point source discharges of wastewater, treated or otherwise, are prohibited in such segments after the effective date of designation. Protection of such segments from pathogens in diffuse, underground sources is covered in R317-5 and R317-7 and the Regulations for Individual Wastewater Disposal Systems (R317-501 through R317-515). Other diffuse sources (nonpoint sources) of wastes shall be controlled to the extent feasible through implementation of best management practices or regulatory programs.

Projects such as, but not limited to, construction of dams or roads will be considered where pollution will result only during the actual construction activity, and where best management practices will be employed to minimize pollution effects.

Waters of the state designated as High Quality Waters - Category 1 are listed in R317-2-12.1.

3.3 High Quality Waters - Category 2

High Quality Waters - Category 2 are designated surface water segments which are treated as High Quality Waters - Category 1 except that a point source discharge may be permitted provided that the discharge does not degrade existing water quality. Waters of the state designated as High Quality Waters - Category 2 are listed in R317-2-12.2.

3.4 High Quality Waters - Category 3

High Quality Waters-Category 3 are designated surface water segments where a point source discharge may be permitted under the conditions and following the review outlined in this section. The High Quality Waters Category 3 designation may be applied to waters with quality higher than that necessary to support the designated beneficial uses of those waters.

Drinking water sources or waters with special value for recreation or fisheries are candidates to be designated as High Quality Waters - Category 3. Before new point source discharges, or increases to existing point source discharges, may be allowed, the State shall assure that (1) there shall be achieved all statutory and regulatory requirements for all new and existing point sources and there shall be achieved all required cost-effective and reasonable bestmanagementpractices for nonpoint source control in the immediate area of the discharge, (2) there are no reasonable non-degrading or less degrading alternatives to the discharge

(based on information provided by the discharger), (3) the proposed activity has economic and social importance, and (4) water quality standards will not be violated by the discharge.

In addition, depending upon the location of the discharge and its proximity to downstream drinking water diversions, additional treatment or more stringent effluent limits or additional monitoring, beyond that which may otherwise be required to meet minimum technology standards or instream water quality standards, may be required in order to adequately protect public health and the environment. Such additional treatment may include additional disinfection, suspended solids removal to make the disinfection process more effective, and/or nutrient removal to reduce the organic content of raw water used as a source for domestic water systems. Additional monitoring may include analyses for viruses, cryptosporidium, or other pathogenic organisms. The additional treatment/effluent limits/monitoring which may be required will be determined in consultation with the Division of Drinking Water and the downstream drinking water users.

The review required by this section may be waived by the Executive Secretary where the volume of the discharge is small compared to the flow of the receiving stream. In general, this waiver would be considered where the ratio of the average stream flow to the discharged flow is expected to be greater than 100:1, and the ratio of the 7Q10 (7 day-10 year) low flow to the discharge flow is expected to be greater than 25:1 where the increase in concentration of pollutants in the stream at 7Q10 is low flow is expected to be less than 10%, or based on other site specific criteria.

Waters of the state designated **as** High Quality Waters -- Category 3 are listed in R317-2-12.3

R317-2-4. Colorado River Salinity Standards.

In addition to quality protection afforded by these regulations to waters of the Colorado River and its tributaries, such waters shall be protected also by requirements of "Proposed Water Quality Standards for Salinity including Numeric Criteria and Plan of Implementation for Salinity Control, Colorado River System, June 1975" and a supplement dated August 26, 1975, entitled "Supplement, including Modifications to Proposed Water Quality Standards for Salinity including Numeric Criteria and Plan of Implementation for Salinity Control, Colorado River System, June 1975", as approved by the seven Colorado River Basin States and the U.S. Environmental Protection Agency, as updated by the 1978 Revision and the 1981, 1984, 1987, 1990, 1993,1996 and 1999 Reviews of the above documents.

R317-2-5. Mixing Zones.

A mixing zone is a limited portion of a body of water, contiguous to a discharge, where dilution is in progress but has

not yet resulted in concentrations which will meet certain standards for all pollutants. At no time, however, shall concentrations within the mixing zone be allowed which are acutely lethal as determined by bioassay or other approved procedure. Mixing zones may be delineated for the purpose of guiding sample collection procedures and to determine permitted effluent limits. The size of the chronic mixing zone in rivers and streams shall not to exceed 2500 feet and the size of an acute mixing zone shall not exceed 50% of stream width nor have a residency time of greater than 15 minutes. Streams with a flow equal to or less than twice the flow of a point source discharge may be considered to be totally mixed. The size of the chronic mixing zone in lakes and reservoirs shall not exceed 200 feet and the size of an acute mixing zone shall not exceed 35 feet. Domestic wastewater effluents discharged to mixing zones shall meet effluent requirements specified in R317-1-3.

5.1 Individual Mixing Zones. Individual mixing zones may be further limited or disallowed in consideration of the following factors in the area affected by the discharge:

a. Bioaccumulation in fish tissues or wildlife,

b. Biologically important areas such as fish spawning/nursery areas or segments with occurrences of federally listed threatened or endangered species,

c. Potential human exposure to pollutants resulting from drinking water or recreational activities,

d. Attraction of aquatic life to the effluent plume, where toxicity to the aquatic life is occurring.

e. Toxicity of the substance discharged,

f. Zone of passage for migrating fish or other species (including access to tributaries), or

g. Accumulative effects of multiple discharges and mixing zones .

R317-2-6. Use Designations.

The Board as required by Section 19-5-110, shall group the waters of the state into classes so as to protect against controllable pollution the beneficial uses designated within each class as set forth below. Surface waters of the state are hereby classified as shown in R317-2-13.

6.1 Class 1 -- Protected for use as a raw water source for domestic water systems.

a. Class 1A -- Reserved.

b. Class 1B -- Reserved.

c. Class 1C -- Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water

6.2 Class 2 -- Protected for recreational use and aesthetics.

a. Class 2A -- Protected for primary contact recreation such as swimming.

b. Class 2B Protected for secondary contact recreation such as boating, wading, or similar uses.

6.3 Class 3 -- Protected for use by aquatic wildlife.

a. Class 3A -- Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.

b. Class 3B -- Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.

c. Class 3C -- Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.

d. Class 3D -- Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.

e. Class 3E -- Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.

6.4 Class 4 -- Protected for agricultural uses including irrigation of crops and stock watering.

6.5 Class 5 -- The Great Salt Lake. Protected for primary and secondary contact recreation, aquatic wildlife, and mineral extraction.

R317-2-7. Water Quality Standards.

7.1 Application of Standards

The numeric criteria listed in R317-2-14 shall apply to each of the classes assigned to waters of the State as specified in R317-2-6. It shall be unlawful and a violation of these regulations for any person to discharge or place any wastes or other substances in such manner as may interfere with designated uses protected by assigned classes or to cause any of the applicable standards to be violated, except as provided in R317-1-3.1. The Board may allow site specific modifications based upon bioassay or other tests performed in accordance with standard procedures determined by the Board.

7.2 Narrative Standards

It shall be unlawful, and a violation of these regulations, for any person to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste; or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures.

R317-2-8. Protection of Downstream Uses.

All actions to control waste discharges under these regulations shall be modified as necessary to protect downstream designated uses.

R317-2-9. Intermittent Waters.

Failure of a stream to meet water quality standards when stream flow is either unusually high or less than the l-day, 10-year minimum flow shall not be cause for action against persons discharging wastes which meet both the requirements of R317-1 and the requirements of applicable permits.

R317-2-10. Laboratory and Field Analyses.

10.1 Laboratory Analyses

All laboratory examinations of samples collected to determine compliance with these regulations shall be performed in accordance with standard procedures as approved by the Utah Division of Water Quality by the Utah Office of State Health Laboratory or by a laboratory certified by the Utah Department of Health.

10.2 Field Analyses

All field analyses to determine compliance with these regulations shall be conducted in accordance with standard procedures specified by the Utah Division of Water Quality.

R317-2-11. Public Participation.

Public hearings will be held to review all proposed revisions of water quality standards, designations and classifications, and public meetings may be held for consideration of discharge requirements set to protect water uses under assigned classifications.

R317-2-12. High Quality Waters.

12.1 High Quality Waters - Category 1.

In addition to assigned use classes, the following surface waters of the State are hereby designated **as** High Quality Waters - Category 1:

12.1.1 All surface waters geographically located within the outer boundaries of U.S. National Forests whether on public or private lands with the following exceptions:

All High Quality Waters - Category 2 as listed in R317-2-12.2.

Weber River, a tributary to the Great Salt Lake, in the Weber River Drainage from Uintah to Mountain Green.

12.1.2 Other surface waters, which may include segments within U.S. National Forests as follows:

12.1.2.1 Colorado River Drainage

Calf Creek and tributaries, from confluence with Escalante River to headwaters.

Sand Creek and tributaries, from confluence with Escalante

River to headwaters.

Mamie Creek and tributaries, from confluence with Escalante River to headwaters.

Deer Creek and tributaries, from confluence with Boulder Creek to headwaters (Garfield County).

Indian Creek and tributaries, through Newspaper Rock State Park to headwaters.

12.1.2.2 Green River Drainage

Fish Creek from confluence with White River to Scofield Dam.

Range Creek and tributaries, from confluence with Green River to headwaters.

Strawberry River and tributaries, from confluence with Red Creek to headwaters.

Avintaquin Creek, from confluence with Strawberry River to confluence with Cottonwood Creek.

Ashley Creek and tributaries, from Steinaker diversion to headwaters.

Jones Hole Creek and tributaries, from confluence with Green River to headwaters.

Green River, from state line to Flaming Gorge Dam.

Tollivers Creek, from confluence with Green River to headwaters.

Allen Creek, from confluence with Green River to headwaters.

12.1.2.3 Virgin River Drainage

North Fork Virgin River and tributaries, from confluence with East Fork Virgin River to headwaters.

East Fork Virgin River and tributaries from confluence with North Fork Virgin River to headwaters.

12.1.2.4 Kanab Creek Drainage

Kanab Creek and tributaries, from irrigation diversion at confluence with Reservoir Canyon to headwaters.

12.1.2.5 Bear River Drainage

Swan Creek and tributaries, from Bear Lake to headwaters.

North Eden Creek, from Upper North Eden Reservoir to headwaters.

Big Creek and tributaries, from Big Ditch diversion to headwaters.

Woodruff Creek and tributaries, from Woodruff diversion to headwaters.

12.1.2.6 Weber River Drainage

Burch Creek and tributaries, from Harrison Boulevard in Ogden to headwaters.

Hardscrabble Creek and tributaries, from confluence with East Canyon Creek to headwaters.

Chalk Creek and tributaries, from U.S. Highway 189 to headwaters.

Weber River and tributaries, from U.S. Highway 189 near Oakley to headwaters.

12.1.2.7 Jordan River Drainage

City Creek and tributaries, from City Creek Water Treatment Plant to headwaters (Salt Lake County).

Emigration Creek and tributaries, from Hogle Zoo to headwaters (Salt Lake County).

Red Butte Creek and tributaries, from Foothill Boulevard in Salt Lake City to headwaters.

Parley's Creek and tributaries, from 13th East in Salt Lake City to headwaters.

Mill Creek and tributaries, from Wasatch Boulevard in Salt Lake City to headwaters.

Big Cottonwood Creek and tributaries, from Wasatch Boulevard in Salt Lake City to headwaters.

Little Willow Creek and tributaries, from diversion to headwaters (Salt Lake County.)

Bell Canyon Creek and tributaries, from Lower Bells Canyon Reservoir to headwaters (Salt Lake County).

South Fork of Dry Creek and tributaries, from Draper Irrigation Company diversion to headwaters (Salt Lake County).

12.1.2.8 Provo River Drainage

Upper Falls drainage above Provo City diversion (Utah County).

Bridal Veil Falls drainage above Provo City diversion (Utah County).

Lost Creek and tributaries, above Provo City diversion (Utah County).

12.1.2.9 Sevier River Drainage

Chicken Creek and tributaries, from diversion at canyon mouth to headwaters.

Pigeon Creek and tributaries, from diversion to headwaters.

East Fork of Sevier River and tributaries, from Kingston diversion to headwaters.

Parowan Creek and tributaries, from Parowan City to headwaters.

Summit Creek and tributaries, from Summit City to headwaters.

Braffits Creek and tributaries, from canyon mouth to headwaters.

Right Hand Creek and tributaries, from confluence with Coal Creek to headwaters.

12.1.2.10 Raft River Drainage

Clear Creek and tributaries, from state line to headwaters (Box Elder County).

Birch Creek (Box Elder County), from state line to headwaters.

Cotton Thomas Creek from confluence with South Junction Creek to headwaters.

12.1.2.11 Western Great Salt Lake Drainage

All streams on the south slope of the Raft River Mountains above 7000' mean sea level.

Donner Creek (Box Elder County), from irrigation diversion to Utah-Nevada state line.

Bettridge Creek (Box Elder County), from irrigation diversion

to Utah-Nevada state line.

Clover Creek, from diversion to headwaters.

All surface waters on public land on the Deep Creek Mountains.

12.1.2.12 Farmington Bay Drainage

Holmes Creek and tributaries, from Highway US-89 to headwaters (Davis County).

Shepard Creek and tributaries, from Height Bench diversion to headwaters (Davis County).

Farmington Creek and tributaries, from Height Bench Canal diversion to headwaters (Davis County).

Steed Creek and tributaries, from Highway US-89 to headwaters (Davis County).

12.2 High Quality Waters - Category 2.

In addition to assigned use classes, the following surface waters of the State are hereby designated as High Quality Waters - Category 2:

12.2.1 Green River Drainage

Deer Creek, a tributary of Huntington Creek, from the forest boundary to 4800 feet upstream

12.3 High Quality Waters - Category 3.

In addition to assigned use classes, the following surface waters of the State are hereby designated as High Quality Waters - Category 3:

12.3.1 Provo River Drainage

Provo River and tributaries from Murdock Diversion to U.S. Forest Boundary, including Deer Creek Reservoir and Jordanelle Reservoir.

R317-2-13. Classification of Waters of the State. (See R317-2-6)

13.1 Upper Colorado River Basin

a. Colorado River Drainage

TABLE

Paria River and tributaries, from state line to headwaters		2B		3c
All tributaries to Lake Powell, except as listed separately		2B	3B	4
Escalante River and tributaries, from Lake Powell to confluence with Boulder Creek		2B		
Escalante River and tributaries, from confluence with Boulder Creek, including Boulder Creek, to headwaters		2B	3A	
Deer Creek and tributaries, from confluence with Boulder Creek to headwaters		2B	3A	
Dirty Devil River and tributaries, from Lake Powell to Fremont River		2B		3c
Fremont River and tributaries, from confluence with Muddy Creek to Capitol Reef National Park		2B	~~3A~~ **3C**	4
Fremont River and tributaries, through Capitol Reef National Park to headwaters	1C	2B	3A	4
Pleasant Creek and tributaries, from confluence with Fremont River to East boundary of Capitol Reef National Park		2B		
Pleasant Creek and tributaries, from East				

boundary of Capitol Reef National Park to headwaters	1C	2B	3A		
Muddy Creek and tributaries, from confluence with Fremont River to Highway U-10 crossing				3c	
Muddy Creek and tributaries, from Highway U-10 crossing to headwaters		2B	3A		
Quitchupah Creek and tributaries, from Highway U-10 crossing to headwaters		2B	3A		
Ivie Creek and tributaries, from Highway U-10 to headwaters		2B	3A		4
San Juan River and tributaries, from Lake Powell to state line except as listed below	1C	2B	3B		
Johnson Creek and tributaries, from confluence with Recapture Creek to headwaters	1C	2B	3A		4
Verdure Creek and tributaries, from Highway US-191 crossing to headwaters		2B	3A		
North Creek and tributaries, from confluence with Montezuma Creek to headwaters	1C	2B	3A		
South Creek and tributaries, from confluence with Montezuma Creek to headwaters	1C	2B	3A		4
Spring Creek and tributaries, from confluence with Vega Creek to headwaters		2B	3A		
Montezuma Creek and tributaries, from U.S. Highway 191 to headwaters	1C	2B	3A		

Colorado River and tributaries, from Lake Powell to state line except as listed separately	1C	2B		
Indian Creek and tributaries, Erom confluence with Colorado River to Newspaper Rock State Park		2B	3B	
Indian Creek and tributaries, through Newspaper Rock State Park to headwaters	1C	2B	3A	
Kane Canyon Creek and tributaries, from confluence with Colorado River to headwaters		2B	3c	4
Mill Creek and tributaries, from confluence with Colorado River to headwaters	1C	2B	3A	4
Dolores River and tributaries, from confluence with Colorado River to state line		2B	3c	4
Roc Creek and tributaries, from confluence with Dolores River to headwaters		2B	3A	
LaSal Creek and tributaries, from state line to headwaters		2B	3A	
Lion Canyon Creek and tributaries, from state line to headwaters		2B	3A	
Little Dolores River and tributaries, from confluence with Colorado River to state line		2B	3c	4
Bitter Creek and tributaries, from confluence with Colorado River to headwaters		2B	3c	4

b. Green River Drainage

TABLE

Green River and tributaries, from confluence with Colorado River to state line except as listed below:	1C	2B	3B	

Thompson Creek and tributaries from Interstate Highway 70 to headwaters					
San Rafael River and tributaries, from confluence with Green River to confluence with Ferron Creek		2B			
Ferron Creek and tributaries, from confluence with San Rafael River to Millsite Reservoir		2B			4
Ferron Creek and tributaries, from Millsite Reservoir to headwaters	1C	2B	3A		
Huntington Creek and tributaries, from confluence with Cottonwood Creek to Highway U-10 crossing		2B			
Huntington Creek and tributaries, from Highway u-10 crossing to headwaters	1C	2B	3A		
Cottonwood Creek and tributaries, from confluence with Huntington Creek to Highway U-57 crossing				3c	
Cottonwood Creek and tributaries, from Highway U-57 crossing to headwaters	1C	2B	3A		
Cottonwood Canal, Emery County	1C	2B			
Price River and tributaries, from confluence with Green River to Carbon Canal Diversion at Price City Golf Course		2B		3c	4
Price River and tributaries, from Carbon Canal Diversion at Price City Golf Course to Price City Water Water Treatment Plant intake.		2B	3A		
Price River and tributaries,					

from Price City Water Treatment Plant intake to headwaters						
Grassy Trail Creek and tributaries, from Grassy Trail Creek Reservoir to headwaters		2B	3A			
Range Creek and tributaries, from confluence with Green River to Range Creek Ranch		2B	3A			4
Range Creek and tributaries, from Range Creek Ranch to headwaters	1C	2B	3A			4
Rock Creek and tributaries, from confluence with Green River to headwaters		2B	3A			4
Nine Mile Creek and tributaries, from confluence with Green River to headwaters		2B	3A			
Pariette Draw and tributaries, from confluence with Green River to headwaters				3B	3D	4
Willow Creek and tributaries (Uintah County), from confluence with Green River to headwaters		2B	3A			4
Bitter Creek and Tributaries from White River to Headwaters		2B	3A			4
White River and tributaries, from confluence with Green River to state line						
Duchesne River and tributaries, from confluence with Green River to Myton Water Treatment Plant intake				3B		
Duchesne River and tributaries, from Myton Water Treatment Plant intake						

to neadwaters	1C	2B	3A	
Uinta River and tributaries, from confluence with Duchesne River to Highway US-40 crossing		2B	3B	4
Uinta River and tributaries, from Highway US-40 crossing to headwaters		2B	3A	4
Power House Canal from confluence with Uinta River to headwaters		2B	3A	
Lake Fork River and tributaries, from confluence with Duchesne River to headwaters	1C	2B	3A	
Lake Fork Canal from Dry Gulch Canal Diversion to Moon Lake				
Dry Gulch Canal, from Myton Water Treatment Plant to Lake Fork Canal				
Whiterocks River and Canal, from Tridell Water Treatment Plant to headwaters	1C	2B	3A	
Ashley Creek and tributaries, from confluence with Green River to Steinaker diversion		2B	3B	4
Ashley Creek and tributaries, from Steinaker diversion to headwaters	1C	2B	3A	
Big Brush Creek and tributaries, from confluence with Green River to Tyzack (Red Fleet) Dam		2B	3B	
Big Brush Creek and tributaries, from Tyzack (Red Fleet) Dam to				

headwaters	1C	2B	3A
Jones Hole Creek and tributaries, from confluence with Green River to headwaters		2B	3A
Diamond Gulch Creek and tributaries, from confluence with Green River to headwaters		2B	3A
Pot Creek and tributaries, from Crouse Reservoir to headwaters		2B	3A
Green River and tributaries, from Utah-Colorado state line to Flaming Gorge Dam except as listed below:		2B	3A
Sears Creek and tributaries, Daggett County		2B	3A
Tolivers Creek and tributaries, Daggett County		2B	3A
Red Creek and tributaries, from confluence with Green River to state line		2B	
Jackson Creek and tributaries, Daggett County		2B	3A
Davenport Creek and tributaries, Daggett County		2B	3A
Goslin Creek and tributaries, Daggett County		2B	3A
Gorge Creek and tributaries, Daggett County		2B	3A
Beaver Creek and tributaries, Daggett County		2B	3A
0-Wi-Yu-Kuts Creek and tributaries, County		2B	3A
Tributaries to Flaming Gorge			

Reservoir, except as listed below				
Birch Spring Draw and tributaries, from Flaming Gorge Reservoir to headwaters		2B		3c
Spring Creek and tributaries, from Flaming Gorge Reservoir to headwaters		2B	3A	
All Tributaries to the Green River above Flaming Gorge Reservoir from Utah-Wyoming state line to headwaters		2B	3A	

13.2 Lower Colorado River Basin

a. Virgin River Drainage

TABLE

Virgin River and tributaries (except as listed below), from state line to Quail Creek diversion		2B	3B	
Santa Clara River and tributaries, from Gunlock Reservoir to headwaters	1C	2B	3A	
Santa Clara River from confluence with Virgin River to Gunlock Reservoir	1C	2B	3B	4
Leed's Creek, from confluence with Quail Creek to headwaters		2B	3A	4
Quail Creek from Quail Creek Reservoir to headwaters	1C	2B	3A	4
Ash Creek and tributaries, from confluence with Virgin River to Ash Creek Reservoir		2B	3A	
Ash Creek and tributaries, From Ash Creek Reservoir to headwaters		2B	3A	

Virgin River and tributaries (except as listed below), from the Quail Creek diversion to headwaters				3c	4
North Fork Virgin River and tributaries	1C	2B	3A		4
East Fork Virgin River, from town of Glendale to headwaters		2B	3A		4
Kolob Creek, from confluence with Virgin River to headwaters		2B	3A		
Beaver Dam Wash and tributaries, from Motoqua to headwaters		2B	3A		

b. Kanab Creek Drainage

TABLE

Kanab Creek and tributaries, from state line to irrigation diversion at confluence with Reservoir Canyon				3c	
Kanab Creek and tributaries, from irrigation diversion at confluence with Reservoir Canyon to headwaters		2B	3A		
Johnson Wash and tributaries, from state line to confluence with Red Wash		2B		3c	
Johnson Wash and tributaries, from confluence with Red Wash to headwaters		2B	3A		

13.3 Bear River Basin

a. Bear River Drainage

TABLE

Bear River and tributaries, from Great Salt Lake to Utah-Idaho border, except as listed below:				3B	3D 4
Willard Creek, from Willard Bay					

Reservoir to headwaters	2B	3A			4
Perry Canyon Creek from U.S. Forest boundary to headwaters	2B	3A			4
Box Elder Creek from confluence with Black Slough to Brigham City Reservoir (the Mayor's Pond)	2 B		3 c		
Box Elder Creek, from Brigham City Reservoir (the Mayor's Pond) to headwaters	2B	3A			4
Malad River and tributaries, from confluence with Bear River to state line			3 c		
Little Bear River and tributaries, from Cutler Reservoir to headwaters	2B	3A		3D	4
Logan River and tributaries, from Cutler Reservoir to headwaters	2B	3A		3D	4
Blacksmith Fork and tributaries, from confluence with Logan River to headwaters	2B	3A			
Newton Creek and tributaries, from Cutler Reservoir to Newton Reservoir	2B	3A			
Clarkston Creek and tributaries. from Newton Reservoir to headwaters	2B	3A			
Birch Creek and tributaries, from confluence with Clarkston Creek to headwaters	2B	3A			4
Summit Creek and tributaries, from confluence with Bear River to headwaters	2B	3A			
Cub River and tributaries, from confluence with Bear River to state line, except as listed below:	2 B				4

High Creek and tributaries, from confluence with Cub River to headwaters		2B	3A		
Swan Springs tributary to Swan Creek	1C	2B	3A		
All tributaries to Bear Lake from Bear Lake to headwaters		2B	3A		
Swan Creek and tributaries, from Bear Lake to headwaters		2B	3A		
Big Creek and tributaries, from Bear Lake to headwaters		2B	3A		
Bear River and tributaries in Rich County		2B	3A		
Bear River and tributaries, from Utah-Wyoming state line to headwaters (Summit County)		2B	3A		
Mill Creek and tributaries, from state line to headwaters (Summit County)		2B	3A		

13.4 Weber River Basin

a. Weber River Drainage

TABLE

Weber River, from Great Salt Lake to Slaterville diversion, except as listed below:		2B		3C 3D	4
Four Mile Creek from I-15 to headwaters		2B	3A		
Weber River and tributaries, from Slaterville diversion to Stoddard diversion		2B	3A		4
Weber River and tributaries, from Stoddard diversion to headwaters	1C	2B	3A		4
Strongs Canyon Creek and tributaries, from U.S. National					

Forest boundary to headwaters	1C	2B	3A		
Burch Creek and tributaries, from Harrison Boulevard in Ogden to headwaters	1C	2B	3A		
Spring Creek and tributaries, from U.S. National Forest boundary to headwaters	1C	2B	3A		4
Ogden River and tributaries, from confluence with Weber River to Pineview Dam		2B	3A		4
Wheeler Creek from confluence with Ogden River to headwaters	1C	2B	3A		4
All tributaries to Pineview Reservoir	1C	2B	3A		

13.5 Utah Lake-Jordan River Basin

a. Jordan River Drainage

TABLE

Jordan River, from Farmington Bay to North Temple Street, Salt Lake City				3B * 3D	4
Jordan River, from North Temple Street in Salt Lake City to confluence with Little Cottonwood Creek				3B *	
Surplus Canal from Great Salt Lake to the diversion from the Jordan River				3B * 3D	4
Jordan River from confluence with Little Cottonwood Creek to Narrows Diversion		2B	3A		4
Jordan River, from Narrows Diversion to Utah Lake	1C	2B		3B	4
City Creek, from Memory Park in Salt Lake City to City Creek Water Treatment Plant		2B	3A		

City Creek, from City Creek Water Treatment Plant to headwaters	1C	2B 3A	
Parley's Creek and tributaries, from 1300 East in Salt Lake City to Mountain Dell Reservoir		2B 3A	
Parley's Creek and tributaries, from Mountain Dell Reservoir to headwaters		2B 3A	
Emigration Creek and tributaries, from Foothill Boulevard in Salt Lake City to headwaters		2B 3A	
Red Butte Creek and tributaries, from Red Butte Reservoir to headwaters		2B 3A	
Mill Creek (Salt Lake County) from confluence with Jordan River to Interstate Highway 15		2 B	
Mill Creek (Salt Lake County) and tributaries from Interstate Highway 15 to headwaters		2B 3A	4
Big Cottonwood Creek and tributaries, from confluence with Jordan River to Big Cottonwood Water Treatment Plant		2B 3A	4
Big Cottonwood Creek and tributaries, from Big Cottonwood Water Treatment Plant to headwaters	1C	2B 3A	
Deaf Smith Canyon Creek and tributaries	1C	2B 3A	4
Little Cottonwood Creek and tributaries, from confluence with Jordan River to Metropolitan Water Treatment Plant		2B 3A	4
Little Cottonwood Creek and tributaries, from Metropolitan Water Treatment Plant to headwaters	1C	2B 3A	

Bell Canyon Creek and tributaries, from lower Bell's Canyon reservoir to headwaters	1C	2B	3A	
Little Willow Creek and tributaries, from Draper Irrigation Company diversion to headwaters	1C	2B	3A	
Big Willow Creek and tributaries, from Draper Irrigation Company diversion to headwaters	1C	2B	3A	
South Fork of Dry Creek and tributaries, from Draper Irrigation Company diversion to headwaters	1C	2B	3A	
All permanent streams on east slope of Oquirrh Mountains (Coon, Barney's, Bingham, Butterfield, and Rose Creeks)		2B	3D	4
Kersey Creek from confluence of C-7 Ditch to headwaters		2B	3D	

* Site specific criteria for total ammonia and dissolved oxygen. See Table 2.14.5.

b. Provo River Drainage

TABLE

Provo River and tributaries, from Utah Lake to Murdock diversion		2B	3A	4
Provo River and tributaries, from Murdock Diversion to headwaters	1C	2B	3A	
Upper Falls drainage above Provo City diversion	1C	2B	3A	
Bridal Veil Falls drainage above Provo City diversion	1C	2B	3A	
Lost Creek and tributaries above Provo City diversion	1C	2B	3A	

c. Utah Lake Drainage

TABLE

American Fork Creek and tributaries, from diversion at mouth of American Fork Canyon to headwaters	2B	3A			4
Spanish Fork River and tributaries, from Utah Lake to diversion at Moark Junction	2B		3B	3D	4
Spanish Fork River and tributaries, from diversion at Moark Junction to headwaters	2B	3A			
Spring Creek and tributaries, from Utah Lake near Lehi to headwaters	2B	3A			
Lindon Hollow Creek and tributaries, from Utah Lake to headwaters	2B		3B		
Mill Race (except from Interstate Highway 15 to the Provo City WWTP discharge) and tributaries from Utah Lake to headwaters			3B		
Mill Race from Interstate Highway 15 to the Provo City wastewater treatment plant discharge			3B		
Spring Creek and tributaries from Utah Lake (Provo Bay) to 50 feet upstream from the east boundary of the Industrial Parkway Road Right-of-way	2B		3B		
Tributary to Spring Creek (Utah County) which receives the Springville City WWTP effluent from confluence with Spring Creek to headwaters	2B			3D	4
Spring Creek and tributaries from 50 feet upstream from the east					

boundary of the Industrial Parkway Road right-of-way to the headwaters	2B	3A		
Ironton Canal from Utah Lake (Provo Bay) to the east boundary of the Denver and Rio Grande Western Railroad right-of-way			3c	
Ironton Canal from the east boundary of the Denver and Rio Grande Western Railroad right-of-way to the point of diversion from Spring Creek	2B	3A		4
Hobble Creek and tributaries, from Utah Lake to headwaters	2B	3A		4
Dry Creek and tributaries from Utah Lake (Provo Bay) to Interstate Highway 15	2B		3c	4
Dry Creek and tributaries from Interstate Highway 15 to headwaters	2B	3A		
Benjamin Slough and tributaries (except Beer Creek) from Utah Lake to headwaters	2B			
Beer Creek (Utah County) from 4850 West (in NE1/4NE1/4 sec. 36, T.8 S., R.l E.) to headwaters	2B		3c	
All other permanent streams entering Utah Lake	2B			4
Salt Creek, from Nephi diversion to headwaters	2B	3A		4
Currant Creek, from mouth of Goshen Canyon to Mona Reservoir	2B	3A		4
Burriston Creek, from Mona Reservoir to headwaters	2B	3A		4
Peteetneet Creek and tributaries,				

from irrigation diversion above Maple Dell to headwaters		2B	3A	
Summit Creek and tributaries (above Santaquin), from U.S. National Forest boundary to headwaters		2B	3A	
Rock Canyon Creek and tributaries (East of Provo) from U.S. National Forest boundary to headwaters	1C	2B	3A	
Dry Creek and tributaries (above Alpine), from U.S. National Forest boundary to headwaters		2B	3A	

13.6 Sevier River Basin

a. Sevier River Drainage

TABLE

Sevier River and tributaries from Sevier Lake to Gunnison Bend Reservoir to U.S.National Forest boundary except the following			3c	4
Beaver River and tributaries from Minersville City to headwaters		2B	3A	
Tributaries to Sevier River from Sevier Lake to Gunnison Bend Reservoir from U.S. National Forest boundary to headwaters, including:		2B	3A	
Pioneer Creek and tributaries, Millard County		2B	3A	4
Chalk Creek and tributaries, Millard County		2B	3A	4
Meadow Creek and tributaries, Millard County		2B	3A	4
Corn Creek and tributaries, Millard County		2B	3A	4

Tributaries to Sevier River from Gunnison Bend Reservoir to Annabella Diversion from U.S. National Forest boundary to headwaters	2B	3A			
Sevier River and tributaries from Gunnison Bend Reservoir to Annabella Diversion except the following tributaries:	2B		3B		
Oak Creek and tributaries, Millard County	2B	3A			
Round Valley Creek and tributaries, Millard County	2B	3A			
Chicken Creek and tributaries, Juab County	2B	3A			
San Pitch River and tributaries, from confluence with Sevier River to Highway U-132 crossing except the following tributaries:	2B			3C 3D	4
Twelve Mile Creek and tributaries, from U.S. Forest Service boundary to headwaters	2B	3A			4
Six Mile Creek and tributaries, Sanpete County	2B	3A			4
Manti Creek and tributaries, from U.S. Forest Service boundary to headwaters	2B	3A			4
Ephraim Creek and tributaries, from U.S. Forest Service to headwaters	2B	3A			
Oak Creek and tributaries, from U.S. Forest Service boundary near Spring City to headwaters					
Fountain Green Creek and tributaries, from U.S.					

Forest Service boundary to headwaters		2B	3A		4
San Pitch River and tributaries, from Highway U-132 crossing to headwaters		2B	3A		4
Judd Creek and tributaries, Juab county		2B	3A		
Meadow Creek and tributaries, Juab County		2B	3A		
Cherry Creek and tributaries, Juab County		2B	3A		
Tanner Creek and tributaries, Juab County					4
Baker Hot Springs, Juab County		2B		3D	4
Sevier River and tributaries, from Annabella diversion to headwaters		2B	3A		
Monroe Creek and tributaries, from diversion to headwaters		2B	3A		
Little Creek and tributaries, from irrigation diversion to headwaters		2B	3A		
Pinto Creek and tributaries, from Newcastle Reservoir to headwaters		2B	3A		4
Coal Creek and tributaries		2B	3A		4
Summit Creek and tributaries		2B	3A		4
Parowan Creek and tributaries		2B	3A		4
Duck Creek and tributaries	1C	2B	3A		4

13.7 Great Salt Lake Basin

a. Western Great Salt Lake Drainage

TABLE

Grouse Creek and tributaries, Box Elder County	2B	3A		4
Muddy Creek and tributaries, Box Elder County	2B	3A	~~3C~~	4
Dove Creek and tributaries, Box Elder County	2B	3A		4
Pine Creek and tributaries, Box Elder County	2B	3A		
Rock Creek and tributaries, Box Elder County	2B	3A		
Fisher Creek and tributaries, BOX Elder County	2B	3A		
Dunn Creek and tributaries, Box Elder County	2B	3A		
Donner Creek and tributaries, from irrigation diversion to Utah-Nevada state line	2B	3A		
Bettridge Creek and tributaries, from irrigation diversion to Utah-Nevada state line	2B	3A		
Indian Creek and tributaries, Box Elder County	2B	3A		
Tenmile Creek and tributaries, Box Elder County	2B	3A		
Curlew (Deep) Creek, Box Elder County	2B	3A		
Blue Creek and tributaries, from Great Salt Lake to Blue Creek Reservoir	2B		3D	4
Blue Creek and tributaries, from Blue Creek Reservoir to headwaters	2B	3B		

All perennial streams on the east slope of the Pilot Mountain Range	1C	2B	3A	
North Willow Creek and tributaries, Tooele County		2B	3A	
South Willow Creek and tributaries, Tooele County		2B	3A	
Hickman Creek and tributaries, Tooele County		2B	3A	4
Barlow Creek and tributaries, Tooele County		2B	3A	4
Clover Creek and tributaries, Tooele County		2B	3A	4
Faust Creek and tributaries, Tooele County		2B	3A	4
Vernon Creek and tributaries, Tooele County		2B	3A	4
Ophir Creek and tributaries, Tooele County		2B	3A	4
Settlement Canyon Creek and tributaries, Tooele County		2B	3A	
Middle Canyon Creek and tributaries, Tooele County		2B	3A	
Tank Wash and tributaries, Tooele County		2B	3A	
Basin Creek and tributaries, Juab and Tooele Counties		2B	3A	4
Thomas Creek and tributaries, Juab County		2B	3A	4
Indian Farm Creek and tributaries, Juab County		2B	3A	4
Cottonwood Creek and tributaries, Juab County		2B	3A	4

Red Cedar Creek *and* tributaries, Juab County	2B	3A				
Granite Creek and tributaries, Juab County	2B	3A				
Trout Creek and tributaries, Juab County	2B	3A				
Birch Creek and tributaries, Juab County	2B	3A				
Deep Creek and tributaries, from Rock Spring Creek to headwaters, Juab and Tooele Counties	2B	3A				4
Cold Spring, Juab County	2B			3C	3D	
Cane Spring, Juab County	2B			3C	3D	
Lake Creek, from Garrison (Pruess) Reservoir to Nevada state line	2B	3A				4
Snake Creek and tributaries, Millard County	2B		3B			4
Salt Marsh Spring Complex, Millard County	2B	3A				
Twin Springs, Millard County	2B		3B			
Tule Spring, Millard County	2B			3C	3D	
Coyote Spring Complex, Millard County	2B			3C	3D	
Hamblin Valley Wash and tributaries, from Nevada state line to headwaters (Beaver and Iron Counties)	2B				3D	4
Indian Creek and tributaries, Beaver County, from Indian Creek Reservoir to headwaters	2B	3A				
Shoal Creek and tributaries, Iron County	2B	3A				

b. Farmington Bay Drainage

TABLE

Corbett Creek and tributaries, from Highway to headwaters		2B	3A	
Kays Creek and tributaries, from Farmington Bay to U.S. National Forest boundary				
North Fork Kays Creek and tributaries, from U.S. National Forest boundary to headwaters		2B	3A	
Middle Fork Kays Creek and tributaries, from U.S. National Forest boundary to headwaters	1C	2B	3A	
South Fork Kays Creek and tributaries, from U.S. National Forest boundary to headwaters	1C	2B	3A	
Snow Creek and tributaries		2B		
Holmes Creek and tributaries, from Farmington Bay to U.S. National Forest boundary		2B		
Holmes Creek and tributaries, from U.S. National Forest boundary to headwaters	1C	2B	3A	
Baer Creek and tributaries, from Farmington Bay to Interstate Highway 15		2B	3c	4
Baer Creek and tributaries, from Interstate Highway 15 to Highway US-89		2B		
Baer Creek and tributaries, from Highway US-89 to headwaters		2B	3A	4
Shepard Creek and tributaries, from U.S. National Forest boundary to headwaters		2B	3A	4

Farmington Creek and tributaries, from Farmington Bay Waterfowl Management Area to U.S. National Forest boundary		2B	3B	4
Farmington Creek and tributaries, from U.S. National Forest boundary to headwaters	1C	2B	3A	
Rudd Creek and tributaries, from Davis aqueduct to headwaters		2B	3A	
Steed Creek and tributaries, from U.S. National Forest boundary to headwaters	1C	2B	3A	4
Davis Creek and tributaries, from Highway US-89 to headwaters		2B	3A	4
Lone Pine Creek and tributaries, from Highway US-89 to headwaters		2B	3A	
Ricks Creek and tributaries, from Highway I-15 to headwaters	1C	2B	3A	
Barnard Creek and tributaries, from Highway US-89 to headwaters		2B	3A	
Parrish Creek and tributaries, from Davis Aqueduct to headwaters		2B	3A	
Deuel Creek and tributaries, from Davis Aqueduct to headwaters		2B	3A	
Stone Creek and tributaries, from Farmington Bay Waterfowl Management Area to U.S. National Forest boundary		2B	3A	
Stone Creek and tributaries, from U.S. National Forest boundary to headwaters	1C	2B	3A	
Barton Creek and tributaries, from U.S. National Forest boundary to headwaters		2B	3A	
Mill Creek (Davis County) and tributaries, from confluence				

with State Canal to U.S. National Forest boundary		2B		
Mill Creek (Davis County) and tributaries, from U.S. National Forest boundary to headwaters		2B	3A	
North Canyon Creek and tributaries, from U.S. National Forest boundary to headwaters		2B	3A	4
Hobart Slough		2B	3c	4
Hooper Slough		2B	3c	4
Willard Slough		2B	3c	4
Willard Creek to Headwaters	1C	2B	3A	4
Chicken Creek to Headwaters	1C	2B	3A	4
Cold Water Creek to Headwaters	1C	2B	3A	4
One House Creek to Headwaters	1C	2B	3A	4
Garner Creek to Headwaters	1C	2B	3A	4

13.8 Snake River Basin

a. Raft River Drainage (Box Elder County)

TABLE

Raft River and tributaries		2B	3A	
Clear Creek and tributaries, from Utah-Idaho state line to headwaters		2B	3A	4
Onemile Creek and tributaries, from Utah-Idaho state line to headwaters		2B	3A	
George Creek and tributaries, from Utah-Idaho state line to headwaters		2B	3A	
Johnson Creek and tributaries, from Utah-Idaho state line to				

headwaters	2B	3A	4
Birch Creek and tributaries, from state line to headwaters	2B	3A	4
Pole Creek and tributaries, from state line to headwaters	2B	3A	
Goose Creek and tributaries	2B	3A	
Hardesty Creek and tributaries, from state line to headwaters	2B	3A	4
Meadow Creek and tributaries, from state line to headwaters	2B	3A	4

13.9 All irrigation canals and ditches statewide, except as otherwise designated 4

13.10 All drainage canals and ditches statewide, except as otherwise designated 3E

13.11 National Wildlife Refuges and State Waterfowl Management Areas

TABLE

Bear River National Wildlife Refuge, Box Elder County			
Brown's Park Waterfowl Management Area, Daggett County			3D
Clear Lake Waterfowl Management Area, Millard County		3C	3D
Desert Lake Waterfowl Management Area, Emery County		3C	3D
Farmington Bay Waterfowl Management Area, Davis and Salt Lake Counties		3c	3D
Fish Springs National Wildlife Refuge, Juab County		3C	3D
Harold Crane Waterfowl Management Area, Box Elder County		3C	3D
Howard Slough Waterfowl			

Management Area, Weber County			3C	3D
Locomotive Springs Waterfowl Management Area, Box Elder County		3B		3D
Ogden Bay Waterfowl Management Area, Weber County			3C	3D
Ouray National Wildlife Refuge, Uintah County		3B		3D
Powell Slough Waterfowl Management Area, Utah County			3C	3D
Public Shooting Grounds Waterfowl Management Area, Box Elder County			3C	3D
Salt Creek Waterfowl Management Area, Box Elder County			3C	3D
Stewart Lake Waterfowl Management Area, Uintah County		3B		3D
Timpie Springs Waterfowl Management Area, Tooele County		3B		

13.12 Lakes and Reservoirs (20 Acres or Larger). All lakes not listed in 13.12 are assigned by default to the classification of the stream with which they are associated.

a. Beaver County

TABLE

Anderson Meadow Reservoir	2B	3A		4
Manderfield Reservoir	2B	3A		4
LaBaron Reservoir	2B	3A		4
Middle Kent's Lake	2B	3A		4
Minersville Reservoir	2B	3A	3D	4
Puffer Lake	2B	3A		
Three Creeks Reservoir	2B	3A		

portion)		1C	2A	2B	3A
Long Park Reservoir				2B	3A
Sheep Creek Reservoir				2B	3A
Spirit Lake				2B	3A
Upper Potter Lake				2B	3A

f. Davis County

TABLE

Farmington Ponds			2B	3A
Kaysville Highway Ponds			2B	3A
Holmes Creek Reservoir			2B	3B

g. Duchesne County

TABLE

Allred Lake			2B	3A	4
Atwine Lake			2B	3A	4
Atwood Lake			2B	3A	4
Betsy Lake			2B	3A	4
Big Sandwash Reservoir		1C	2B	3A	4
Bluebell Lake			2B	3A	4
Brown Duck Reservoir			2B	3A	4
Butterfly Lake			2B	3A	4
Cedarview Reservoir			2B	3A	4
Chain Lake #1			2B	3A	4
Chepeta Lake			2B	3A	4
Clements Reservoir			2B	3A	4
Cleveland Lake			2B	3A	4

b. Box Elder County

TABLE

Cutler Reservoir (including portion in Cache County)				2B		3B	3D	4
Etna Reservoir					3A			4
Lynn Reservoir					3A			4
Mantua Reservoir				2B	3A			4
Willard Bay Reservoir		1C	2A	2B		3B	3D	4

c. Cache County

TABLE

Hyrum Reservoir			2A	2B	3A			
Newton Reservoir				2B	3A			
Porcupine Reservoir				2B	3A			
Pelican Pond				2B		3B		
Tony Grove Lake				2B	3A			

d. Carbon County

TABLE

Grassy Trail Creek Reservoir		1C		2B	3A			
Olsen Pond				2B		3B		
Scofield Reservoir		1C		2B	3A			

e. Daggett County

TABLE

Browne Reservoir				2B	3A			
Daggett Lake				2B	3A			
Flaming Gorge Reservoir (Utah								

Mirror Lake			2B	3A	4
Mohawk Lake			2B	3A	4
Moon Lake	1C	2A	2B	3A	4
North Star Lake			2B	3A	4
Palisade Lake			2B	3A	4
Pine Island Lake			2B	3A	4
Pinto Lake			2B	3A	4
Pole Creek Lake			2B	3A	4
Potter's Lake			2B	3A	4
Powell Lake			2B	3A	4
Pyramid Lake		2A		3A	4
Queant Lake			2B	3A	4
Rainbow Lake			2B	3A	4
Red Creek Reservoir			2B	3A	4
Rudolph Lake			2B	3A	4
Scout Lake		2A	2B	3A	4
Spider Lake			2B	3A	4
Spirit Lake			2B	3A	4
Starvation Reservoir	1C	2A	2B	3A	4
Superior Lake			2B	3A	4
Swasey Hole Reservoir			2B	3A	4
Taylor Lake			2B	3A	4
Thompson Lake			2B	3A	4
Timothy Reservoir #1			2B	3A	4
Timothy Reservoir #6			2B	3A	4

Cliff Lake		2B	3A	4
Continent Lake		2B	3A	4
Crater Lake		2B	3A	4
Crescent Lake		2B	3A	4
Daynes Lake		2B	3A	4
Dean Lake		2B	3A	4
Doll Lake		2B	3A	4
Drift Lake		2B	3A	4
Elbow Lake		2B	3A	4
Farmer's Lake		2B	3A	4
Fern Lake		2B	3A	4
Fish Hatchery Lake		2B	3A	4
Five Point Reservoir		2B	3A	4
Fox Lake Reservoir		2B	3A	4
Governor's Lake		2B	3A	4
Granddaddy Lake		2B	3A	4
Hoover Lake		2B	3A	4
Island Lake	1C	2B	3A	4
Jean Lake		2B	3A	4
Jordan Lake		2B	3A	4
Kidney Lake		2B	3A	4
Kidney Lake West		2B	3A	4
Lily Lake		2B	3A	4
Midview Reservoir (Lake Boreham)		2B	3B	4
Milk Reservoir		2B	3A	4

Purple Lake		2B	3A		4
Raft Lake		2B	3A		4
Row Lake #3		2B	3A		4
Row Lake #7		2B	3A		4
Spectacle Reservoir		2B	3A		4
Tropic Reservoir		2B	3A		4
West Deer Lake		2B	3A		4
Wide Hollow Reservoir		2B	3A		4

j. Iron County

TABLE

Newcastle Reservoir		2B	3A		4
Red Creek Reservoir		2B	3A		4
Yankee Meadow Reservoir		2B	3A		4

k. Juab County

TABLE

Chicken Creek Reservoir		2B		3C 3D	4
Mona Reservoir		2B	3B		4
Sevier Bridge (Yuba) Reservoir	2A	2B	3B		4

1. Kane County

TABLE

Navajo Lake		2B	3A		

m. Millard County

TABLE

DMAD Reservoir		2B			4
Fools Creek Reservoir		2B		3C 3D	4

Timothy Reservoir #7			2B	3A		4
Twin Pots Reservoir		1C	2B	3A		4
Upper Stillwater Reservoir		1C	2B	3A		4
X - 24 Lake			2B	3A		4

h. Emery County

TABLE

Cleveland Reservoir			2B	3A		4
Electric Lake			2B	3A		4
Huntington Reservoir			2B	3A		4
Huntington North Reservoir		2A	2B	3B		4
Joe's Valley Reservoir		2A	2B	3A		4
Millsite Reservoir	1C	2A	2B	3A		4

i Garfield County

TABLE

Barney Lake			2B	3A		4
Cyclone Lake			2B	3A		4
Deer Lake			2B	3A		4
Jacob's Valley Reservoir			2B		3C 3D	4
Lower Bowns Reservoir			2B	3A		4
North Creek Reservoir			2B	3A		4
Panguitch Lake			2B	3A		4
Pine Lake			2B	3A		4
Oak Creek Reservoir (Upper Bowns)			2B	3A		4
Pleasant Lake			2B	3A		4
Posey Lake			2B	3A		4

Little Dell Reservoir		1C		2B	3A	
Mountain Dell Reservoir		1C			3A	

r. San Juan County

TABLE

Blanding Reservoir #4				2B	3A	4
Dark Canyon Lake				2B	3A	4
Ken's Lake				2B	3A	4
Lake Powell (Utah portion)		1C	2A	2B	3B	4
Lloyd's Lake		1C		2B	3A	4
Monticello Lake				2B	3A	4
Recapture Reservoir				2B	3A	4

s. Sanpete County

TABLE

Duck Fork Reservoir				2B	3A	4
Fairview Lakes				2B	3A	4
Ferron Reservoir				2B	3A	4
Lower Gooseberry Reservoir		1C		2B	3A	4
Gunnison Reservoir				2B	3c	4
Island Lake				2B	3A	4
Miller Flat Reservoir				2B	3A	4
Ninemile Reservoir				2B	3A	4
Palisade Reservoir			2A	2B	3A	4
Rolfson Reservoir				2B		4
Twin Lakes				2B	3A	4

Garrison Reservoir (Pruess Lake)				2B	3B		
Gunnison Bend Reservoir				2B	3B		

n. Morgan County

TABLE

East Canyon Reservoir	1C	2A	2B	3A			4
Lost Creek Reservoir	1C		2B	3A			4

0. Piute County

TABLE

Barney Reservoir				2B	3A		
Lower Boxcreek Reservoir				2B	3A		
Manning Meadow Reservoir				2B	3A		
Otter Creek Reservoir				2B	3A		
Piute Reservoir				2B	3A		
Upper Boxcreek Reservoir				2B	3A		

p. Rich County

TABLE

Bear Lake (Utah portion)			2A	2B	3A		
Birch Creek Reservoir				2B	3A		
Little Creek Reservoir				2B	3A		
Woodruff Creek Reservoir				2B	3A		

q. Salt Lake County

TABLE

Decker Lake				2B	3B	3D	4
Lake Mary	1C			2B	3A		

China Lake			2B	3A	4
Cliff Lake			2B	3A	4
Clyde Lake			2B	3A	4
Coffin Lake			2B	3A	4
Cuberant Lake			2B	3A	4
East Red Castle Lake			2B	3A	4
Echo Reservoir		1C	2A	2B	3A	4
Fish Lake			2B	3A	4
Fish Reservoir			2B	3A	4
Haystack Reservoir #1			2B	3A	4
Henry's Fork Reservoir			2B	3A	4
Hoop Lake			2B	3A	4
Island Lake			2B	3A	4
Island Reservoir			2B	3A	4
Jesson Lake			2B	3A	4
Kamas Lake			2B	3A	4
Lily Lake			2B	3A	4
Lost Reservoir			2B	3A	4
Lower Red Castle Lake			2B	3A	4
Lyman Lake		2A	2B	3A	4
Marsh Lake			2B	3A	4
Marshall Lake			2B	3A	4
McPheters Lake			2B	3A	4
Meadow Reservoir			2B	3A	4
Meeks Cabin Reservoir			2B	3A	4

Willow Lake	2B	3A	

t Sevier County

TABLE

Annabella Reservoir	2B	3A	4
Big Lake	2B	3A	4
Farnsworth Lake	2B	3A	4
Fish Lake	2B	3A	4
Forsythe Reservoir	2B	3A	4
Johnson Valley Reservoir	2B	3A	4
Koosharem Reservoir	2B	3A	4
Lost Creek Reservoir	2B	3A	4
Redmond Lake	2B		4
Rex Reservoir	2B	3A	4
Salina Reservoir	2B	3A	4
Sheep Valley Reservoir	2B	3A	4

u. Summit County

TABLE

Abes Lake	2B	3A	4
Alexander Lake	2B	3A	4
Amethyst Lake	2B	3A	4
Beaver Lake	2B	3A	4
Beaver Meadow Reservoir	2B	3A	4
Big Elk Reservoir	2B	3A	4
Blanchard Lake	2B	3A	4
Bridger Lake	2B	3A	4

Stansbury Lake			2B	3B	
Vernon Reservoir			2B	3A	

w. Uintah County

TABLE

Ashley Twin Lakes (Ashley Creek)	1C		2B	3A	4
Bottle Hollow Reservoir			2B	3A	4
Brough Reservoir			2B	3A	4
Calder Reservoir			2B	3A	4
Crouse Reservoir			2B	3A	4
East Park Reservoir			2B	3A	4
Fish Lake			2B	3A	4
Goose Lake #2			2B	3A	4
Matt Warner Reservoir			2B	3A	4
Oaks Park Reservoir			2B	3A	4
Paradise Park Reservoir			2B	3A	4
Pelican Lake			2B	3B	4
Red Fleet Reservoir	1C	2A	2B	3A	4
Steinaker Reservoir	1C	2A	2B	3A	4
Towave Reservoir			2B	3A	4
Weaver Reservoir			2B	3A	4
Whiterocks Lake			2B	3A	4
Workman Lake			2B	3A	4

x. Utah County

TABLE

Salem Pond		2A	3A	

Notch Mountain Reservoir			2B	3A	4
Red Castle Lake			2B	3A	4
Rockport Reservoir	1C	2A	2B	3A	4
Ryder Lake			2B	3A	4
Sand Reservoir			2B	3A	4
Scow Lake			2B	3A	4
Smith Moorehouse Reservoir	1C		2B	3A	4
Star Lake			2B	3A	4
Stateline Reservoir			2B	3A	4
Tamarack Lake			2B	3A	4
Trial Lake	1C		2B	3A	4
Upper Lyman Lake			2B	3A	4
Upper Red Castle			2B	3A	4
Wall Lake Reservoir			2B	3A	4
Washington Reservoir			2B	3A	4
Whitney Reservoir			2B	3A	4

v. Tooele County

TABLE

Blue Lake			2B		4
Clear Lake			2B		4
Grantsville Reservoir			2B	3A	4
Horseshoe Lake			2B	3B	4
Kanaka Lake			2B	3B	4
Rush Lake			2B	3B	
Settlement Canyon Reservoir			2B	3A	

Mill Meadow Reservoir	2B	3A
Raft Lake	2B	3A

bb. Weber county

TABLE

Causey Reservoir	2B	3A
Pineview Reservoir	1C 2A 2B	3A

13.13 Great Salt Lake

TABLE

Box Elder, Davis, Salt Lake, Tooele, and Weber County	

13.14 Unclassified Waters

All waters not specifically classified are presumptively classified as 2B, 3D.

R317-2-14. Numeric Criteria.

TABLE 2.14.1
NUMERIC CRITERIA FOR DOMESTIC, RECREATION, AND AGRICULTURAL USES

Parameter	Domestic Source 1C	Recreation and Aesthetics 2A	2B	Agri-culture 4
BACTERIOLOGICAL (30-DAY GEOMETRIC MEAN) (NO.)/100 ML) (7)				
Max. Total Coliforms	5000	1000	5000	
Max. Fecal Coliforms	2000	200	200	
PHYSICAL				
pH (RANGE)	6.5-9.0	***6.5-9.0***	***6.5-9.0***	***6.5-9.0***
Turbidity Increase (NTU)		***10***	10	
METALS (DISSOLVED, MAXIMUM MG/L) (2)				

Silver Flat Lake Reservoir			2B	3A	4
Tibble Fork Resevoir			2B	3A	4
Utah Lake			2B	3B 3D	4

y. Wasatch County

TABLE

Currant Creek Reservoir		1C	2B	3A	4
Deer Creek Reservoir		1C 2A	2B	3A	4
Jordanelle Reservoir		1C 2A		3A	4
Mill Hollow Reservoir			2B	3A	4
Strawberry Reservoir		1C	2B	3A	4

z. Washington County

TABLE

Baker Dam Reservoir			2B	3A	4
Gunlock Reservoir		1C 2A	2B	3B	4
Ivins Reservoir			2B	3B	4
Kolob Reservoir			2B	3A	4
Lower Enterprise Reservoir			2B	3A	4
Quail Creek Reservoir		1C	2A 2B	3B	4
Upper Enterprise Reservoir			2B	3A	4

aa. Wayne County

TABLE

Blind Lake			2B	3A
Cook Lake			2B	3A
Donkey Reservoir			2B	3A
Fish Creek Reservoir			2B	3A

Total Suspended Solids (MG/L)	90	**90**

FOOTNOTES:

(1) These limits are not applicable to lower water levels in deep impoundments.

(2) The dissolved metals method involves filtration of the sample in the field, acidification of the sample in the field, no digestion process in the laboratory, and analysis by atomic absorption or inductively coupled plasma (ICP) spectrophotometry.

(3) Maximum concentration varies according to the daily maximum mean air temperature.

TEMP (C)	MG/L
12.0	**2.4**
12.1-14.6	**2.2**
14.7-17.6	**2.0**
17.7-21.4	**1.8**
21.5-26.2	**1.6**
26.3-32.5	**1.4**

(4) Total dissolved solids (TDS) limits may be adjusted if such adjustment does not impair the designated beneficial use of the receiving water.

(5) Investigations should be conducted to develop more information where these pollution indicator levels are exceeded.

(6) Total Phosphorus as P (mg/l) limit for lakes and reservoirs shall be 0.025.

(7) Exceedences of bacteriological numeric criteria from nonhuman nonpoint sources will generally be addressed through appropriate Federal, State, and Local nonpoint source programs.

TABLE 2.14.2
NUMERIC CRITERIA FOR AQUATIC WILDLIFE

Parameter	Aquatic 3A	Wildlife 3B	**3c**	**3D**
PHYSICAL				
Total Dissolved Gases	(1)	(1)		
Minimum Dissolved Oxygen (MG/L) (2)				
30 Day Average	**6.5**	**5.5**	**5.0**	**5.0**
7 Day Average	9.5/5.0	6.0/4.0		
1 Day Average	8.0/4.0	5.0/3.0	**3.0**	**3.0**

Arsenic	0.05			0.1
Barium	1.0			
Cadmium	0.01			0.01
Chromium	0.05			0.10
Copper				0.2
Lead	0.05			0.1
Mercury	0.002			
Selenium	0.01			0.05
Silver	0.05			
INORGANICS (MAXIMUM MG/L)				
Boron				0.75
Fluoride (3)	1.4-2.4			
Nitrates as N	10			
Total Dissolved Solids (4)				1200
RADIOLOGICAL (MAXIMUM pCi/L)				
Gross Alpha	15			15
Radium 226, 228 (Combined)	5			
Strontium 90	8			
Tritium	20000			
ORGANICS (MAXIMUM UG/L)				
Chlorophenoxy Herbicides				
2,4-D	100			
2,4,5-TP	10			
Endrin	0.2			
Hexachlorocyclohexane (Lindane)	4			
Methoxychlor	100			
Toxaphene	5			
POLLUTION INDICATORS (5)				
Gross Beta (pCi/L)	50			50
BOD (MG/L)		5	5	5
Nitrate as N (MG/L)		4	4	
Total Phosphorus as P (MG/L)(6)		0.05	0.05	

4 Day Average		110	110	110
1 Hour Average		120	120	120
INORGANICS (MG/L) (3)				
Total Ammonia as N (6)				
4 Day Average	(6a)	(6a)		
1 Hour Average	(6b)	(6b)	(6b)	(6b)
Chlorine (Total Residual)				
4 Day Average	0.011	0.011	0.011	
1 Hour Average	0.019	0.019	0.019	(7)
Hydrogen Sulfide (Undissociated, Max. UG/L)	2.0	2.0	2.0	2.0
Phenol (Maximum)	0.01	0.01	0.01	0.01
RADIOLOGICAL (MAXIMUM pCi/L)				
Gross Alpha (8)	15	15	15	15
ORGANICS (UG/L) (3)				
Aldrin (Maximum)	1.5	1.5	1.5	1.5
Chlordane				
4 Day Average	0.0043	0.0043	0.0043	0.0043
1 Hour Average	1.2	1.2	1.2	1.2
DDT and Metabolites				
4 Day Average	0.0010	0.0010	0.0010	0.0010
1 Hour Average	0.55	0.55	0.55	0.55
Dieldrin				
4 Day Average	0.0019	0.0019	0.0019	0.0019
1 Hour Average	1.25	1.25	1.25	1.25
Endosulfan				
4 Day Average	0.056	0.056	0.056	0.056
1 Hour Average	0.11	0.11	0.11	0.11
Endrin				
4 Day Average	0.0023	0.0023	0.0023	0.0023
1 Hour Average	0.09	0.09	0.09	0.09
Guthion (Maximum)	0.01	0.01	0.01	0.01
Heptachlor				
4 Day Average	0.0038	0.0038	0.0038	0.0038
1 Hour Average	0.26	0.26	0.26	0.26
Hexachlorocyclohexane (Lindane)				
4 Day Average	0.08	0.08	0.08	0.08

Max. Temperature (C)	20	27	27	
Max. Temperature Change (C)	2	4	4	
pH (Range)	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0
Turbidity Increase (NTU)	10	10	15	15
METALS (3) (DISSOLVED, UG/L) (4)				
Aluminum				
4 Day Average (12)	87	87	87	87
1 Hour Average	750	750	750	750
Arsenic (Trivalent)				
4 Day Average	190	190	190	190
1 Hour Average	360	360	360	360
Cadmium (5)				
4 Day Average	1.1	1.1	1.1	1.1
1 Hour Average	3.9	3.9	3.9	3.9
Chromium (11) (Hexavalent)				
4 Day Average	11	11	11	11
1 Hour Average	16	16	16	16
Chromium (Trivalent) (5)				
4 Day Average	210	210	210	210
1 Hour Average	1700	1700	1700	1700
Copper (5)				
4 Day Average	12	12	12	
1 Hour Average	18	18	18	18
Cyanide (Free)				
4 Day Average	5.2	5.2	5.2	
1 Hour Average	22	22	22	22
Iron (Maximum)	1000	1000	1000	1000
Lead (5)				
4 Day Average	3.2	3.2	3.2	3.2
1 Hour Average	82	82	82	82
Mercury				
4 Day Average	0.012	0.012	0.012	0.012
1 Hour Average (11)	2.4	2.4	2.4	2.4
Nickel (5)				
4 Day Average	160	160	160	160
1 Hour Average	1400	1400	1400	1400
Selenium				
4 Day Average	5.0	5.0	5.0	5.0
1 Hour Average	20	20	20	20
Silver				
1 Hour Average (5)	4.1	4.1	4.1	4.1
Zinc (5)				

(6a) The 4-Day average (chronic) concentration of un-ionized ammonia in mg/l as N is (0.80 / FT / FPH / PATIO) * 0.822, where

FT = $10^{0.03(20-TCAP)}$; T is greater than or equal to TCAP and less than or equal to 30

= $10^{0.03(20-T)}$; T is greater than or equal to 0 and less than or equal to TCAP.

FPH = 1; pH is greater than or equal to 8.0 and less than or equal to 9.0.

= $(1 + 10^{7.4 - pH}) / 1.25$ pH is greater than or equal to 6.5 and less than 8.0

T = degrees C, and

TCAP = 15 C for salmonids or other sensitive coldwater species, or

= 20 C for salmonids and other sensitive coldwater species absent.

RATIO = 13.5; pH is greater than or equal to 7.7 and less than or equal to 9.0.

= $20(10^{7.7-pH}) , 1 + 10^{7.4})$; pH is greater than or equal to 6.5 and less than or equal to 7.7.

(6b) The l-Hour average (acute) concentration of un-ionized ammonia in mg/l as N is (0.52 / FT / FPH / 2) * 0.822

Where :

FT = $10^{0.03(20-TCAP)}$; T is greater or equal to TCAP and less than or equal to 30.

= $10^{0.03(20-T)}$; T is greater than or equal to 0 and less than or equal to TACP.

FPH = 1; pH is greater than or equal to 8.0 and less than or equal to 9.0.

= $(1+10^{7.4 - pH}) / 1.25$ pH is greater than or equal to 6.5 or less than 8.0.

T = degrees C, and

TCAP = 20 C for salmonids or other sensitive coldwater species, or

TCAP = 25 C for salmonids and other sensitive coldwater species absent.

(6c) Total Ammonia in mg/l as N is Un-ionized Ammonia in mg/l as N x $(1 + 10^{pKa - pH})$, where:

pKa = 0.09018 + 2729.92 / T

T = Temperature (C) + 273.2

For Tables of values, see following page.

(7) Numeric criteria will be established based on a site-specific assessment of potential impacts to aquatic wildlife.

(8) Investigations should be conducted to develop more information where these levels are exceeded.

(9) pH dependent criteria. pH 7.8 used in table. See Table 2.14.4 for equation.

(10) Total Phosphorus as P (mg/l) limit for lakes and reservoirs shall be 0.025.

1 Hour Average	1.0	1.0	1.0	1.0
Methoxychlor				
(Maximum)	0.03	0.03	0.03	0.03
Mirex (Maximum)	0.001	0.001	0.001	0.001
Parathion (Maximum)	0.04	0.04	0.04	0.04
PCB's				
4 Day Average	0.014	0.014	0.014	0.014
1 Hour Average	2.0	2.0	2.0	2.0
Pentachlorophenol				
(9)				
4 Day Average	13	13	13	13
1 Hour Average	20	20	20	20
Toxaphene				
4 Day Average	0.0002	0.0002	0.0002	0.0002
1 Hour Average	0.73	0.73	0.73	0.73
POLLUTION				
INDICATORS (8)				
Gross Beta (pCi/L)	50	50		50
BOD (MG/L)	5	5		5
Nitrate as N (MG/L)	4	4		
Total Phosphorus as P				
(MG/L) (10)	0.05	0.05		
Total Suspended	35	90		
Solids (MG/L) (8)				

FOOTNOTES:

(1) Not to exceed 110% of saturation.

(2) These limits are not applicable to lower water levels in deep impoundments. First number in column is for when early life stages are present, second number is for when all other life stages present.

(3) Where criteria are listed as 4-day average and l-hour average concentrations, these concentrations should not be exceeded more often than once every three years on the average.

(4) The dissolved metals method involves filtration of the sample in the field, acidification of the sample in the field, no digestion process in the laboratory, and analysis by atomic absorption spectrophotometry or inductively coupled plasma (ICP).

(5) Hardness dependent criteria. 100 mg/l used. Conversion factors for ratio of total recoverable metals to dissolved metals must also be appied. See Table 2.14.3 for complete equations for hardness and conversion factors.

(6) Un-ionized ammonia toxicity is dependent upon the temperature and pH of the waterbody. For detailed explanation refer to Federal Register, vol. 50, 30784, July 29, 1985.

The following equations are used to calculate criteria concentrations:

FOR CLASS 3B, 3C, 3D WATERS
TEMPERATURE (C)

pH	0.00	5.00	10.00	15.00	20.00	25.00	30.00
6.50	28.1	26.8	25.4	24.4	23.8	23.5	16.6
7.00	23.1	21.6	20.5	19.7	19.2	19.0	13.5
7.50	14.3	13.4	12.7	12.3	12.0	11.9	8.47
8.00	6.55	6.14	5.86	5,68	5.59	5.61	4.05
8.50	2.11	1.99	1.93	1.90	1.92	1.98	1.49
9.00	0.70	0.68	0.68	0.70	0.75	0.83	0.68

TABLE
4-DAY AVERAGE (CHRONIC) CONCENTRATION OF
TOTAL AMMONIA AS N (MG/L)
FOR CLASS 3B WATERS
TEMPERATURE (C)

pH	0.00,	5.00	10.00	15.00	20.00	25.00	30.00
6.50	2.49	2.33	2.21	2.12	2.07	1.44	1.02
7.00	2.49	2.33	2.21	2.13	2.07	1.45	1.03
7.50	2.50	2.34	2.22	2.14	2.09	1.47	1.04
8.00	1.49	1.14	1.33	1.29	1.27	0.90	0.65
8.50	0.48	0.45	0.44	0.43	0.44	0.32	0.24
9.00	0.16	0.16	0.16	0.16	0.17	0.13	0.11

TABLE 2.14.3a
EQUATIONS FOR PARAMETERS WITH
HARDNESS (1) DEPENDENCE, INCLUDING CONVERSION FACTORS
FOR TOTAL RECOVERABLE TO DISSOLVED METALS

Parameter	4-Day Average (Chronic) Concentration (UG/L)
CADMIUM	$CFx\ e^{(0.7852(\ln(\text{hardness}))-3.490)}$ CF = 1.101672 - (ln hardness)(0.041838)
CHROMIUM (TRIVALENT)	$CFx\ e^{(0.8190(\ln(\text{hardness}))+1.561)}$ CF = 0.860
COPPER	$CFx\ e^{(0.8545(\ln(\text{hardness}))-1.465)}$ CF = 0.960
LEAD	$CFx\ e^{(1.273(\ln(\text{hardness}))-4.705)}$ CF = 1.46203 - (ln hardness) (0.145712)
NICKEL	$CFx\ e^{(0.8460(\ln(\text{hardness}))+1.1645)}$ CF = 0.997

(11) Total recoverable metals to dissolved metals conversion factors must be applied to arrive at correct dissolved metals criteria. The conversion factors are: chronic helavalent chromium criteria, 0.962; acute hexavalent chromium criteria, 0.982; acute mercury criteria, 0.850.

(12) The criterion for aluminum will be implemented as follows: Where the pH is equal to or greater than 1.0 and the hardness is equal to or greater than 50 ppm as CaC03 in the receiving water after mixing, the 87 ug/l chronic criterion (expressed as total recoverable) will not apply, and aluminum will be regulated based on compliance with the 750 ug/l acute aluminum criterion.

TABLE
1-HOUR AVERAGE (ACUTE) CONCENTRATION OF
TOTAL AMMONIA AS N (MG/L)
FOR CLASS 3A WATERS
TEMPERATURE (C)

pH	0.00	5.00	10.00	15.00	20.00	25.00	30.00
6.50	28.7	26.8	25.4	24.4	23.8	16.6	11.8
7.00	23.1	21.6	20.5	19.7	19.2	13.4	9.52
1.50	14.3	13.4	12.7	12.3	12.0	8.42	5.99
8.00	6.55	6.14	5.86	5.68	5.59	3.97	2.07
8.50	2.11	1.99	1.93	1.90	1.92	1.40	1.05
9.00	0.70	0.68	0.68	0.70	0.75	0.59	0.48

TABLE
4-DAY AVERAGE (CHRONIC)CONCENTRATION OF
TOTAL AMMONIA AS N (MG/L)
FOR CLASS 3A WATERS
TEMPERATURE (C)

pH	0.00	5.00	10.00	15.00	20.00	25.00	30.00
6.50	2.49	2.33	2.21	2.12	1.46	1.02	0.72
7.00	2.49	2.33	2.21	2.13	1.47	1.03	0.73
7.50	2.50	2.34	2.22	2.14	1.48	1.04	0.74
8.00	1.49	1.40	1.33	1.29	0.90	0.64	0.46
8.50	0.48	0.45	0.44	0.43	0.31	0.23	0.17
9.00	0.16	0.16	0.16	0.16	0.12	0.10	0.08

TABLE
1-HOUR AVERAGE (ACUTE)CONCENTRATION OF
TOTAL AMMONIA AS N (MG/L)

DISSOLVED OXYGEN:

May-July

l-day average	**5.5** mg/l
30-day average	**5.5** mg/l
Instantaneous minimum	**4.5** mg/l

August-April

30-day **average**	**5.5** mg/l
Instantaneous minimum	**4.0** mg/l

Total Ammonia as N:

(1) The maximum concentration of unionized ammonia should not exceed the numerical value given by the following:

0.15 X (f(T) / f(pH)) **X 2.989**

where:

f(T) **= 1; T greater than or equal to** 10C

= (1 + $10^{(9.73-pH)}$ / **1 +** $10^{(pKt - pH)}$) **; T less than** 10C

f (pH) = 1 **+** $10^{(1.03(7.32-pH))}$

pkt = 0.090 + (2730 / (T **+ 273.2))**

(2) **The average concentration of unionized ammonia over any 30 consecutive days should be less than the value given by the following:**

0.031 x (f(T) / f(pH)) **x 2.10**

where:

f(pH) **= 1;** pH **greater than or equal to** 7.7

= $10^{(0.74(7.7-pH))}$; pH **less than 7.7**

f(T) **= 1; T greater than or equal to** 10C

= (1 + $10^{(9.73-pH)}$) / **(1** + $10^{(pKt - pH)}$); **T less than** 10C

(3) Total Ammonia in mg/l **as N is Un-ionized Ammonia in** mg/l **as N** x $(1+10^{pKa - pH})$, **where:**

pKa **= 0.09018 + 2729.92** / **T**

T = Temperature (C) + 273.2

TABLE

MAXIMUM CONCENTRATION (ACUTE)

TOTAL AMMONIA AS **N** (MG/L)

TEMPERATURE (C)

pH	0.00	5.00	10.00	15.00	20.00	25.00	30.00
6.50	95.3	95.3	95.3	64.9	44.1	31.2	22.1
6.75	88.1	88.1	88.1	60.0	41.4	28.9	20.4
7.00	76.9	16.9	76.9	52.4	35.1	25.3	17.9
7.25	62.3	62.3	62.3	42.4	29.3	20.5	14.6
7.50	46.3	46.3	46.3	31.6	21.9	15.4	10.9
7.15	31.8	31.8	31.8	21.7	15.1	10.6	7.60
8.00	20.5	20.5	20.4	14.0	9.79	6.94	5.01
8.25	12 6	12.6	12.6	8.70	6.12	4.40	3.22

SILVER	**N/A**
ZINC	$Cfx\ e^{(0.8473(\ln(hardness))+0.7614)}$ **CF = 0.986**

TABLE 2.14.3b
EQUATIONS FOR PARAMETERS WITH HARDNESS (1) DEPENDENCE, INCLUDING CONVERSION FACTORS FOR TOTAL RECOVERABLE TO DISSOLVED METALS

Parameter	l-Hour Average (Acute) Concentration (UG/L)
CADMIUM	$CFx\ e^{(1.128(\ln(hardness))-3.828)}$ **CF = 1.136672 -(ln hardness) (0.41383)**
CHROMIUM (TRIVALENT)	$CFx\ e^{(0.8190(\ln(hardness))+3.688)}$ **CF = 0.316**
COPPER	$CFx\ e^{(0.9422(\ln(hardness))-1.464)}$ **CF = 0.960**
LEAD	$CFx\ e^{(1.273(\ln(hardness))-1.460)}$ **CF = 1.46203 - (ln hardness) (0.145712)**
NICKEL	$CFx\ e^{(0.8460(\ln(hardness))+3.3612}$ **CF= 0.998**
SILVER	$CFx\ e^{(1.72(\ln(hardness))-6.52}$ **CF = 0.85**
ZINC	$CFx\ e^{(0.8473(\ln(hardness))+0.8604}$ **CF = 0.978**

FOOTNOTE:
(1) **Hardness as** mg/l $CaCO_3$

TABLE 2.14.4
EQUATIONS FOR PENTACHLOROPHENOL (pH DEPENDENT)

4-Day Average (Chronic) Concentration (UG/L)	l-Hour Average (Acute) Concentration (UG/L)
$e^{(1.005(pH))-5.290}$	$e^{(1.005(pH))-4.830}$

TABLE 2.14.5
SITE SPECIFIC CRITERIA FOR TOTAL AMMONIA AND DISSOLVED OXYGEN FOR JORDAN RIVER AND SURPLUS CANAL SEGMENTS (SEE SECTION 2.13)

13	1,1-Dichloroethane	75-34-3		
14	1,1,2-Trichloroethane	79-00-5	0.61	42
15	1,1,2,2-Tetrachloro-ethane	79-34-5	0.17	11
16	Chloroethane	75-00-3		
17	Bis(2-chloroethyl) ether	111-44-4	0.031	1.4
18	2-Chloroethyl vinyl ether	110-75-8		
19	2-Chloronaphthalene	91-58-7	1700	4300
20	2,4,6-Trichlorophenol	88-06-2	2.1	6.5
21	p-Chloro-m-cresol	59-50-7		
22	Chloroform (HM)	67-66-3	5.7	470
23	2-Chlorophenol	95-57-8	120	400
24	1,2-Dichlorobenzene	95-50-l	2700	17000
25	1,3-Dichlorobenzene	541-73-l	400	2600
26	1,4-Dichlorobenzene	106-46-7	400	2600
27	3,3'-Dichlorobenzidine	91-94-1	0.04	0.077
28	1,1-Dichloroethylene	75-35-4	0.057	3.2
29	1,2-trans-Dichloroethylenel	56-60-F	700	
30	2,4-Dichlorophenol	120-83-2	93	790
31	1,2-Dichloropropane	78-87-5	0.52	39
32	1,3-Dichloropropylene	542-75-6	10	1700
33	2,4-Dimethylphenol	105-67-g	540	2300
34	2,4-Dinitrotoluene	121-14-2	0.11	9.1
35	2,6-Dinitrotoluene	606-20-2		
36	1,2-Diphenylhydrazine	122-66-7	0.040	0.54
37	Ethylbenzene	100-41-4	3100	29000
38	Fluoranthene	206-44-o	300	370
39	4-Chlorophenyl phenyl ether	7005-72-3		-
40	4-Bromophenyl phenyl ether	101-55-3	-	-
41	Bis(2-chloroisopropyl) ether	39638-32-9	1400	170000
42	Bis(2-chloroethoxy) methane	111-91-l		
43	Methylene chloride (HM)	75-09-2	4.7	1600
44	Methyl chloride (HM)	74-87-3		
45	Methyl bromide (HM)	74-83-9		
46	Bromoform (HM)	75-25-2	4.3	360
47	Dichlorobromomethane (HM)	75-27-4	0.27	22
48	Chlorodibromomethane (HM)	124-48-l	0.41	34
49	Hexachlorobutadiene(c)	87-68-3	0.44	50
50	Hexachlorocyclo-pentadiene	77-47-4	240	17000

8.50	7.60	7.60	7.60	5.30	3.19	2.77	2.08
8.15	3.75	3.75	3.75	2.69	1.99	1.52	1.20
9.00	2.80	2.80	2.80	2.05	1.55	1.21	0.99

TABLE
30-DAY AVERAGE CONCENTRATION (CHRONIC)
TOTAL AMMONIA AS N (MG/L)
TEMPERATURE (C)

pH	0.00	5.00	10.00	15.00	20.00	25.00	30.00
6.50	14.3	14.3	14.3	9.74	6.72	4.69	3.32
6.75	12.3	12.3	12.3	8.40	5.79	4.05	2.86
7.00	10.6	10.6	10.6	7.24	5.00	3.49	2.47
1.25	9.17	9.72	9.16	6.24	4.31	3.02	2.14
7.50	7.91	7.91	7.91	5.40	3.13	2.62	1.86
7.75	6.29	6.29	6.28	4.30	2.98	2.10	1.50
8.00	3.56	3.56	3.56	2.44	1.71	1.21	0.87
8.25	2.03	2.03	2.03	1.40	0.99	0.71	0.52
8.50	1.17	1.17	1.17	0.82	0.58	0.43	0.32
8.75	0.56	0.56	0.56	0.40	0.30	0.23	0.18
9.00	0.41	0.41	0.41	0.30	0.23	0.18	0.15

TABLE 2.14.6

List of Human Health Criteria Included in the
1992 National Toxics Rule (NTR)
(Published in the Federal Register)
(For Arsenic, the Maximum Contaminate Level (MCL) applies
instead of the NTR Criteria

	Parameter	CAS No.	Class 1C Maximum Conc., ug/L	Class 3
	Toxic Organics			
1	Acenaphthene	83-32-9	1200	2700
2	Acrolein	107-02-8	320	780
3	Acrylonitrile	107-13-l	0.059	0.66
4	Benzene	71-43-2	1.2	71
5	Benzidine	92-87-5	0.00012	0.00054
6	Carbon tetrachloride	56-23-5	0.25	4.4
7	Chlorobenzene	108-90-7	680	21000
8	1,2,4-Trichlorobenzene	120-82-l		
9	Hexachlorobenzene	118-74-1	0.00075	0.00077
10	1,2-Dichloroethane	107-06-2	0.38	99
11	1,1,1-Trichloroethane	71-55-6		
12	Hexachloroethane	67-72-l	1.9	8.9

90	4,4'-DDE	72-55-9	0.00059	0.00059
91	4,4'-DDD	72-54-a	0.00083	0.00084
92	alpha-Endosulfan	115-29-7	0.93	2.0
93	beta-Endosulfan	115-29-7	0.93	2.0
94	Endosulfan sulfate	1031-07-a	0.93	2.0
95	Endrin	72-20-a	0.76	0.81
96	Endrin aldehyde	7421-93-4	0.76	0.81
97	Heptachlor	76-44-8	0.00021	0.00021
98	eptachlor epoxide			
99	alpha-hexachlorocyclo-hexane (alpha-BHC)	319-84-6	0.0039	0.013
100	beta-hexachlorocyclo-hexane (beta-BHC)	319-85-7	0.014	0.046
101	gamma-hexachlorocyclo-hexane (gamma-BHC)	58-89-9	0.019	0.063
102	delta-hexachlorocyclo-hexane (delta-BHC)	319-86-a		
	PCB's			
103	PCB 1242 (Arochlor 1242)	1336-36-3	0.000044	0.000045
104	PCB-1254 (Arochlor 1254)	1336-36-3	0.000044	0.000045
105	PCB-1221 (Arochlor 1221)	1336-36-3	0.000044	0.000045
106	PCB-1232 (Arochlor 1232)	1336-36-3	0.000044	0.000045
107	PCB-1248 (Arochlor 1248)	1336-36-3	0.000044	0.000045
108	PCB-1260 (Arochlor 1260)	1336-36-3	0.000044	0.000045
109	PCB-1016 (Arochlor 1016)	1336-36-3	0.000044	0.000045
	Pesticide			
110	Toxaphene	8001-35-2	0.00073	0.00075
	Metals			
111	Antimony	7440-36-o	14	4300
112	Arsenic	7440-38-2	50	
113	Asbestos	1332-21-4	7000000 f/l	
114	Beryllium	7440-41-7		
115	Cadmium	7440-43-g		
116	Chromium (III)	440-47-3		
	Chromium (VI)			
117	Copper	7440-50-a	1300	
118	Cyanide	57-12-5	700	220000
119	Lead	7439-92-l		
120	Mercury	7439-97-6	0.14	0.15

51	Isophorone	78-59-l	8.4	600
52	Naphthalene	91-20-3		
53	Nitrobenzene	98-95-3	17	1900
54	2-Nitrophenol	88-75-5		
55	4-Nitrophenol	100-02-7		
56	2,4-Dinitrophenol	51-28-5	70	14000
57	4,6-Dinitro-o-cresol	534-52-l	13	765
58	N-Nitrosodimethylamine	62-75-9	0.00069	8.1
59	N-Nitrosodiphenylamine	86-30-6	5.0	16
60	N-Nitrosodi-n-propylamine	621-64-7	0.005	1.4
61	Pentachlorophenol	87-86-5	0.28	8.2
62	Phenol	108-95-2	21000	4600000
63	Bis(2-ethylhexyl) phthalate	117-881-7	1.8	5.9
64	Butyl benzyl phthala	5-68-7	3000	5200
65	Di-n-butyl phthalate	84-74-2	2700	12000
66	Di-n-octyl phthlate	117-84-O		
67	Diethyl phthalate	84-66-2	23000	120000
68	Dimethyl phthlate	131-11-3	313000	2900000
69	Benzo(a)anthracene (PAH)	56-55-3	0.0028	0.031
70	Benzo(a)pyrene (PAH)	50-32-8	0.0028	0.031
71	Benzo(b)fluoranthene (PAH)	205-99-2	0.0028	0.031
72	Benzo(k)fluoranthene (PAH)	207-08-g	0.0028	0.031
73	Chrysene (PAH)	218-01-g	0.0028	0.031
74	Acenaphthylene (PAH)	208-96-8		
75	Anthracene (PAH)	120-12-7	9600	
76	Benzo(g,h,i)perylene (PAH)	191-24-2		
77	Fluorene (PAH)	86-73-7	1300	14000
78	Phenanthrene (PAH)	85-01-S		
79	Dibenzo(a,h)anthracene (PAH)	53-70-3	0.0028	0.031
80	Indeno(1,2,3-cd)pyrene (PAH)	193-39-5	0.0028	0.031
81	Pyrene (PAH)	129-00-O	960	11000
82	Tetrachloroethylen	127-18-4	0.80	8.9
83	Toluene	108-88-3	6800	200000
84	Trichloroethylene	79-01-6	2.7	81
85	Vinyl chloride	75-01-4	2.0	525
	Pesticides			
86	Aldrin	309-00-Z	0.00013	0.00014
87	Dieldrin	60-57-l	0.00014	0.00014
88	Chlordane	57-74-9	0.00057	0.00059
89	4,4'-DDT	50-29-3	0.00059	0.00059

121	Nickel	7440-02-o	610	4600
122	Selenium	7782-49-2		
123	Silver	7440-22-4		
124	Thallium	7440-28-o	1.7	6.3
125	Zinc	7440-66-6		
	Dioxin			
126	Dioxin (2,3,7,8-TCDD)	1746-01-6	0.000000013	0.000000014